



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

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2/02/2016

Mr. Don Tremblay  
Berry Plastics Corporation  
44 O'Neill Street  
Easthampton, MA 01027

**RE: EASTHAMPTON**  
Transmittal No.: X267138  
Application No.: WE-15-016  
Class: *SM80-7*  
FMF No.: 387459  
**AIR QUALITY PLAN APPROVAL**

Dear Mr. Tremblay:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Limited Plan Application ("Application") listed above. This Application concerns the proposed installation of a new silkscreen printing process line for plastic tube production at your manufacturing facility located at 44 O'Neill Street in Easthampton, Massachusetts ("Facility").

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

## **1. DESCRIPTION OF FACILITY AND APPLICATION**

Berry Plastics, (hereinafter “Permittee”), is a manufacturer of extrusion-molded plastic packaging. They manufacture plastic squeeze tubes and caps for the cosmetic, personal care, pharmaceutical, and household chemical market. The plastic tubes are extruded and molded from pelletized plastic resin, then capped, coated and printed. Berry Plastics has received separate Plan Approvals for new and existing equipment in May 2006 and received a Plan Approval to install a new process line, designated Inline #11, on June 7, 2012.

Berry Plastics is proposing to install a new silkscreen printing machine to apply ultra-violet (“UV”) Coatings and inks to the plastic tubes. New coatings and inks will be introduced for the proposed silkscreen line in addition to the existing inventory. An existing solvent, isopropyl acetate, will be used on the new printer for cleaning purposes.

The coating process is subject to 310 CMR 7.18(21) Surface Coating of Plastic Parts. Emission limitation for Miscellaneous Plastic Parts is 3.4 lbs VOC/gallon of solids applied with EPA Method 24 as the compliance method for determining the volatile matter content of the surface coatings. However, because the new coatings are UV curable, Berry Plastics requested to use the South Coast Air Quality Management District (“SCAQMD”) *Memorandum on Emission Factors for UV Curable Materials, dated July 17, 2008 (the South Coast Method)*. Berry Plastic’s request was made pursuant to 310 CMR 7.18(2)(a) which provides for the use of an alternative test method if approved by MassDEP and EPA.

Berry Plastics provided the manufacturer’s data and testing based on ISO test method 3251:2008 *Paints, varnishes and plastics – Determination of Non-Volatile-Matter Content* on the two coatings to determine the solids content and free VOC weight percentages. Berry Plastics provided this information and detailed calculations using the South Coast Method to MassDEP and EPA. Based on EPA’s review of the information provided by Berry Plastics and MassDEP’s approval of using the South Coast Method to determine the solvent based UV curable materials, EPA approved the use of the South Coast Method as an alternative to Method 24. South Coast Method emission calculations for the coatings and EPA’s Approval letter for the use of this method are included as Appendix A and Appendix B to this Plan Approval.

Berry Plastics currently operates five identical silkscreen machines and two of the existing machines will be decommissioned within one year of the installation of the new silkscreen machine. The new silkscreen machine will replace these machines and provide the facility with a more efficient printing method. The proposed silkscreen machine is designed for silkscreen printing onto flexible tubes or sleeves. The silkscreen station is built around a twenty-two station rotary indexing ring. Each station on the indexing ring has a station head that holds a mandrel. A station head has its own servomotor that rotates the mandrel to entirely cover the plastic tubing. After the printers, the plastic tubes will enter an electric UV curing oven followed by a packing machine.

Volatile Organic Compounds (“VOC”) are emitted from different segments of this process. VOCs are emitted as a result of the UV coatings and printing of inks onto the plastic tubing. VOCs are also emitted from the use of solvents for cleaning purposes. Printer VOC emissions will be exhausted directly to the ambient atmosphere through a new stack. Potential VOC emissions with the proposed machine were calculated based on using the worst-case VOC content coating for the maximum operating rate for each process operating at 8,760 hours per year operation, is 3.20 tons per year.

### **Best Available Control Technology**

The emissions of VOC from the proposed ISIMAT silkscreen machine is subject to the best available control technology (“BACT”) requirements of 310 CMR 7.02(8)(a)2. In lieu of a top-down BACT analysis, Berry Plastics proposes the use of a combination of best management practices, pollution prevention, and a limitation on the hours of operation and/or raw material usage as allowed by 310 CMR 7.02(8)(a)2.b. if the proposed emissions are less than 18 tons of VOC per 12 consecutive month period. Berry Plastics will minimize VOC and HAP emissions from their operations by limiting the VOC and HAP-contents of coatings/materials, limiting the usage of VOC and HAP-containing coatings/materials and implementing work practices which minimize the evaporation of VOCs and HAPs.

## **2. EMISSION UNIT (EU) IDENTIFICATION**

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

<b>Table 1</b>			
<b>EU#</b>	<b>Description</b>	<b>Design Capacity</b>	<b>Pollution Control Device (PCD)</b>
30	ISIMAT Silkscreen Machine	110 parts per minute	None

**Table 1 Key:**

EU# = Emission Unit Number

PCD = Pollution Control Device



### 3. APPLICABLE REQUIREMENTS

#### A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit <sup>1</sup>
30	$\leq 3.4$ Lb VOC/gallon solids applied Coatings <sup>2</sup> – 559 gallons per year Solvents <sup>3</sup> – 438 gallons per year	VOC	0.43 Lbs/hr 0.27 tons/month 1.85 tons/year

**Notes:**

1. The two Schekolin Coatings (Matt & Gloss) pounds of VOC per gallon of UV curable coating were calculated utilizing the South Coast Air Quality Management District's (SCAQMD) Memorandum on Emission Factors for UV Curable Materials. See Appendix A for detailed calculations using the SCAQMD Memorandum which was approved by USEPA Region 1 and MassDEP.
2. The manufacturer indicates that the VOC content of the two Schekolin Coatings is comprised of ethoxypropanol.
3. Solvents were assumed to be 100% VOC content by weight.

**Table 2 Key:**

EU# = Emission Unit Number

VOC = Volatile Organic Compounds

HAP (single) = maximum single Hazardous Air Pollutant

HAPs (total) = total Hazardous Air Pollutants.

TPY = tons per consecutive 12-month period

TPM = tons per month

LbVOC = pounds of Volatile Organic Compounds

Lbs/hr = pounds per hour

#### B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3	
EU#	Monitoring and Testing Requirements
30	1. The Permittee shall monitor material usage of coatings and solvents, on a monthly basis, such that records can be maintained of the Facility's emissions of VOCs and HAPs to determine compliance with the emission limits in Table 2 above.

<b>Table 3</b>	
<b>EU#</b>	<b>Monitoring and Testing Requirements</b>
30	2. The Permittee shall perform, at the request of MassDEP or USEPA, tests to characterize VOC and solids contents of the coatings used.
Facility-wide	3. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	4. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13

**Table 3 Key:**

EU# = Emission Unit Number  
Environmental

VOC = Volatile Organic Compounds

CMR = Code of Massachusetts Regulations  
Agency

MassDEP = Massachusetts Department of

Protection

USEPA = United States Environmental Protection

<b>Table 4</b>	
<b>EU#</b>	<b>Record Keeping Requirements</b>
30	1. The Permittee shall maintain records of the identity, quantity, formulation, density, and VOC content (lbs VOC/gal. solids) of all coatings.
	2. The Permittee shall maintain records of the identity, quantity, formulation, density, and VOC content (lbs VOC/gal.) of all solvents.
Facility-wide	3. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15 <sup>th</sup> day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at <a href="http://www.mass.gov/dep/air/approvals/aqforms.htm#report">http://www.mass.gov/dep/air/approvals/aqforms.htm#report</a> .
	4. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	5. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	6. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.

Table 4	
EU#	Record Keeping Requirements
	7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
Facility-wide	8. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	9. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	10. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

**Table 4 Key:**

EU# = Emission Unit Number  
Procedure

PCD = Pollution Control Device  
Protection

VOC = Volatile Organic Compound  
Agency

lbs = Pounds

gal = gallons

SOMP = Standard Operating and Maintenance

MassDEP = Mass Department of Environmental

USEPA = United States Environmental Protection

Table 5	
EU#	Reporting Requirements
30	1. The Permittee shall generate monthly reports in-house that document the compliance with the limits specified in Table 2 of this Plan Approval. If any emission limit(s) is exceeded, the Permittee shall notify MassDEP in writing no later than the 15 <sup>th</sup> day of the following month.
Facility-wide	2. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	3. The Permittee shall notify the Western Regional Office of MassDEP, BAW Permit Chief by telephone at (413) 755-2115, by email, <a href="mailto:Marc.Simpson@state.ma.us">Marc.Simpson@state.ma.us</a> , or fax at (413) 784-1149, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Marc Simpson, Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).

Table 5	
EU#	Reporting Requirements
Facility-wide	4. The Permittee shall report <i>every three years</i> to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	5. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.
	6. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	7. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

**Table 5 Key:**

EU# = Emission Unit Number

CMR = Code of Massachusetts Regulations

MassDEP = Mass Department of Environmental Protection

#### 4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	Special Terms and Conditions
30	1. The Permittee shall calculate the VOC emissions from the silkscreen printing machines on a monthly basis.
	2. The Permittee shall meet the following cleanup solution standards: <ul style="list-style-type: none"> <li>a. cleanup solution shall be kept in covered containers during transport and storage;</li> <li>b. shop towels contaminated with cleanup solution shall be kept, when not in use, in covered containers; and</li> <li>c. shall maintain records of cleanup solution VOC and HAP content and usage to demonstrate compliance with Table 2 requirements of this Approval..</li> </ul>



<b>Table 6</b>	
<b>EU#</b>	<b>Special Terms and Conditions</b>
Facility-wide	<p>3. Pursuant to the best available control technology provision of 310 CMR 7.02(8)(a)2, the Permittee shall comply with the following work practices:</p> <ul style="list-style-type: none"> <li>a. Store all VOC and/or HAP-containing materials, process-related waste materials and fresh and spent cleaning solvents in closed containers;</li> <li>b. ensure that mixing and storage containers used for VOC and/or HAP-containing materials and process-related waste materials are kept closed at all times except when depositing or removing these materials;</li> <li>c. minimize spills of VOC and/or HAP-containing materials and process-related waste materials;</li> <li>d. convey VOC and/or HAP-containing materials and process-related waste materials from one location to another in closed containers or pipes;</li> <li>e. minimize VOC and/or HAP emissions from cleaning of application, storage, mixing, and conveying equipment by ensuring that: (i) equipment cleaning is performed without atomizing the cleanup solvent; and, (ii) all spent solvent is captured in closed containers; and</li> <li>f. store and dispose of all absorbent materials, such as cloth or paper, that are contaminated with VOC and/or HAP-containing materials and process-related waste materials in non-absorbent containers that shall be kept closed except when placing materials in or removing materials from the container.</li> </ul>
	<p>4. Opacity, exclusive of uncombined water, shall not exceed 10% at all times during all modes of operation, including startups and shutdowns. Visible emissions or opacity which exceeds the limits set forth in this Approval shall be reported to MassDEP in writing or by fax within three (3) business days of the occurrence.</p>
	<p>5. Noise from the facility during routine operation, including startups and shutdowns, shall not exceed MassDEP noise guidelines and shall not cause a condition of air pollution as defined in 310 CMR 7.01 and 7.10.</p>
	<p>6. The facility shall be constructed and operated in a manner to prevent the occurrence of dust and odor conditions which cause or contribute to a condition of air pollution as defined in 310 CMR 7.01 and 7.09.</p>
	<p>7. Any prior Plan Approvals issued under 310 CMR 7.02 shall remain in effect unless specifically changed or superseded by this Plan Approval. The Facility shall not exceed the emission limits and shall comply with approved conditions specified in the prior Plan Approval(s) unless specifically altered by this Plan Approval.</p>

**Table 6 Key:**

EU# = Emission Unit Number  
VOC = Volatile Organic Compound  
HAP = Hazardous Air Pollutant

% = Percent  
CMR = Code of Massachusetts Regulations

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack

shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.” The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval:

<b>Table 7</b>				
<b>EU#</b>	<b>Stack Height Above Ground (feet)</b>	<b>Stack Inside Exit Dimensions (feet)</b>	<b>Stack Gas Exit Velocity Range (feet per second)</b>	<b>Stack Gas Exit Temperature Range (°F)</b>
30	35.66	1.5	40	70-95

**Table 7 Key:**

EU# = Emission Unit Number

°F = Degree Fahrenheit

## **5. GENERAL CONDITIONS**

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

## **6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT**

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

## **7. APPEAL PROCESS**

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
P.O. Box 4062  
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Todd Wheeler by telephone at (413) 755-2297, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the  
Department of Environmental Protection. A signed copy of this document  
is on file at the DEP office listed on the letterhead.

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Marc Simpson  
Permit Chief  
Bureau of Air and Waste

Enclosure

ecc: MassDEP/Boston - Yi Tian  
MassDEP/WERO – Peter Czapienski